

Missouri CMHC Healthcare Homes Progress Report 2018



Missouri Department of
MENTAL HEALTH

UMSL | MIMH
Missouri Institute of Mental Health

MISSOURI
COALITION
FOR COMMUNITY BEHAVIORAL HEALTHCARE

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Executive Summary

As of December 2018, the Community Mental Health Center Healthcare Homes (HCH) have engaged in seven years of HCH system-wide change.

HCH Services



Comprehensive Care

Care Coordination & Health Promotion



Comprehensive Transitional Care



Patient & Family Support



Referral to Community & Social Support Services

Link Services through Information Technology

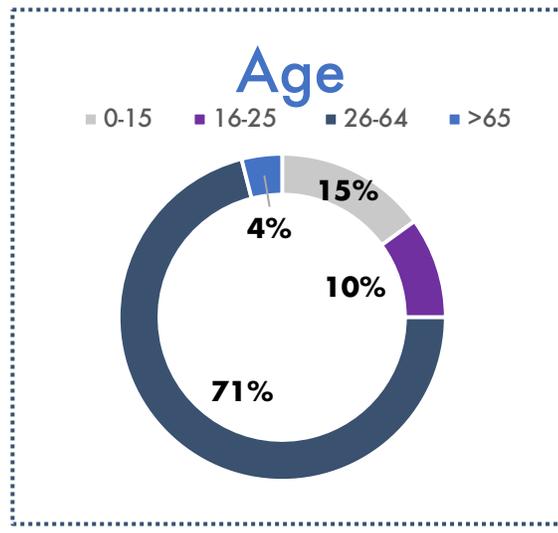


Population Overview by the Numbers

32,241
Received Care

27%
New to HCH

24%
In HCH > 5
years



Cost Savings

The CMHC Healthcare Homes saved an average of \$289 PMPM in 2017

The HCH population has significantly higher prevalence of chronic health conditions compared to the general population:

Asthma ↑5X



Substance Use ↑3.5X



Hypertension ↑5X



Diabetes ↑3.5X

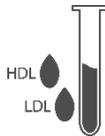


HCH Goals

The goals of the HCH are to improve health outcomes, reduce the use of high-cost medical services such as emergency department visits and hospitalizations, and reduce the cost of healthcare for the HCH population through HCH services. The following results demonstrate the continued success of the HCH to achieve the goals of the program.

Clinical Improvements

Cholesterol Levels ↓
24%



Blood Pressure Levels ↓
12%



A1c Levels ↓ 1.5%



Weight Loss ↓ 39%

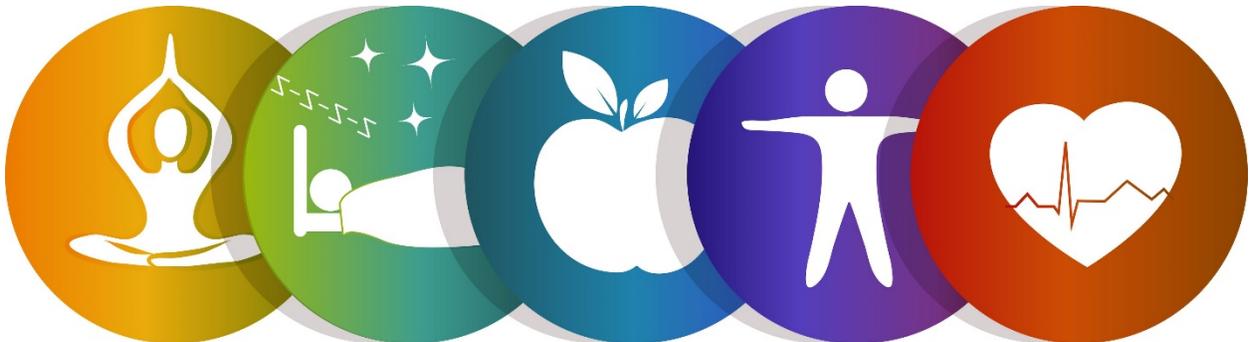


Reduction in Utilization

Hospitalizations ↓ 28%



Number of ER Visits in a Year ↓ 41%



Section 1: Enrollment and Population Characteristics

A. Enrollment

Eligibility criteria for enrollment in the HCH program has remained static since the beginning of Missouri Health Homes. As of December 2018, there are 26* HCHs operating in Missouri, with total enrollment numbers for each organization listed in Table 1 below. These numbers represent the individuals who received at least one month of HCH services in 2018.

Table 1

2018 HCH enrollment by Agency					
	Youth	TAY	Adult	>65	Total Enrolled
Adapt of Missouri Inc	0	10	482	40	532
BJC Behavioral Health Farmington	84	72	609	52	817
BJC Behavioral Health St Louis	80	136	1611	130	1957
Bootheel Counseling Services	233	113	585	41	972
Burrell Behavioral Health Columbia	226	164	857	40	1287
Burrell Behavioral Health Springfield	462	263	1942	81	2748
Clark Community Mental Health Center	83	58	274	20	435
Community Counseling Center	316	167	820	65	1368
Community Treatment Inc	9	25	521	24	579
Compass Health	1447	836	5007	214	7504
Comprehensive Health Systems	0	11	233	21	265
Comprehensive Mental Health Services	30	41	518	33	622
East Central Missouri Behavioral Health	91	58	313	27	489
FCC, Inc	436	216	1270	109	2031
Family Guidance Center	108	99	646	36	889
Hopewell Center	146	73	694	64	977
Independence Center	0	25	400	32	457
Mark Twain	48	114	575	27	764
New Horizons	0	13	348	31	392
North Central Missouri MHC	236	130	498	41	905
Ozark Center	109	113	599	35	856
Ozark Medical Center	215	64	346	18	643
Places For People	12	13	402	23	450
Preferred Family Healthcare Inc	168	84	516	27	795
ReDiscover	155	187	1093	47	1482
Swope Health Services CMHC	36	40	484	34	594
Tri County Mental Health Services	24	63	506	37	630
Truman Medical Center Behavioral Health	72	81	587	61	801
Total	4826	3269	22736	1410	32241
	15%	10%	71%	4%	

*Burrell Behavior Health and BJC Behavioral Health are reported separately, but considered 1 organization. As such, the table has 28 sites listed, representing the 26 HCH organizations.

B. Demographics

Adults and children are eligible for the CMHC HCH program; however, not all of the CMHCs serve youth under 18 years of age. Seventy-one percent (71%) of HCH enrollees are between the ages of 25-64. The average age of adult enrollees was 46.4 years. In 2018, youth 0-15 represented 15% of the HCH population, with 10% of the population falling between the ages of 16-24, commonly referred to as transitional aged youth. The average age of the youth population (<16 years old) was 12.1 years in 2018. Adults over the age of 65 are a smaller proportion of the HCH, representing only 4% of the overall enrollment (Fig. 1).

Females represent 56% of enrollees, 77% of all enrollees identified as Caucasian, 19% identified as African American, with the remaining 3.7% of individuals identified as Asian (0.2%), Native American (0.2%), or do not claim a specific racial group (3.3%). Only 0.4% of individuals were identified as Hispanic. Individuals who are dual eligible for Medicaid and Medicare may also be enrolled in a HCH; these dual enrollees account for 30% of the HCH adult population. In 2017, Managed Care was extended statewide, and 20% of HCH enrollees had coverage through a managed care plan as of December 31, 2018 (Fig. 2).

Fig. 1: Enrollment by Age Group

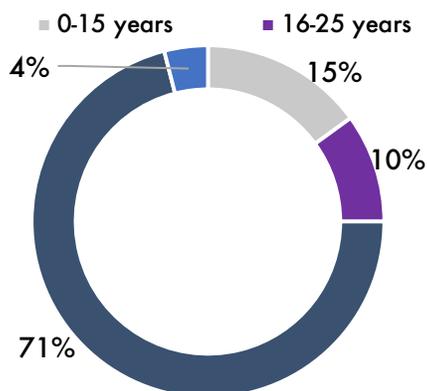
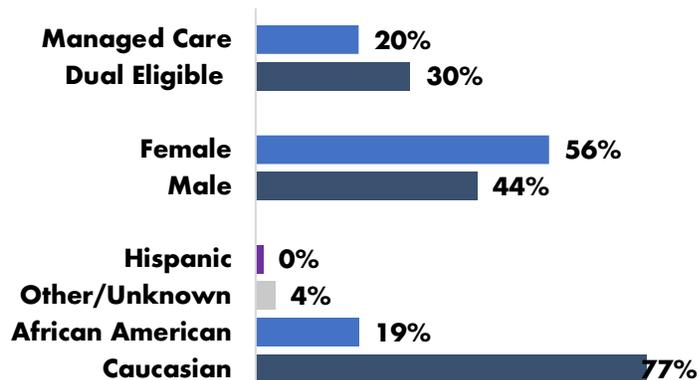
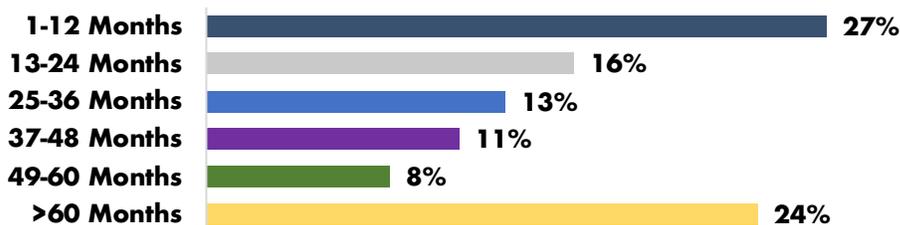


Fig. 2: HCH Demographic Characteristics



HCH has been serving Medicaid-eligible enrollees since January 1, 2012. For 2018, the largest percentage of people were newly enrolled (12 months or less, see Fig. 3).

Fig. 3: Length of HCH Enrollment



C. Disease Management Programs & Outreach

Disease management programs are considered an outreach arm for the HCH program. DM 3700 is a disease management program targeting individuals with serious mental illness (SMI) and high Medicaid costs. The ADA DM program targets individuals with a substance use disorder (SUD) who also have high Medicaid costs. Both disease management programs have a goal of engaging individuals into care and improving health outcomes. Table 2 below shows the number of individuals engaged through DM 3700 and ADA DM who were enrolled in at least one month of HCH services in 2018.



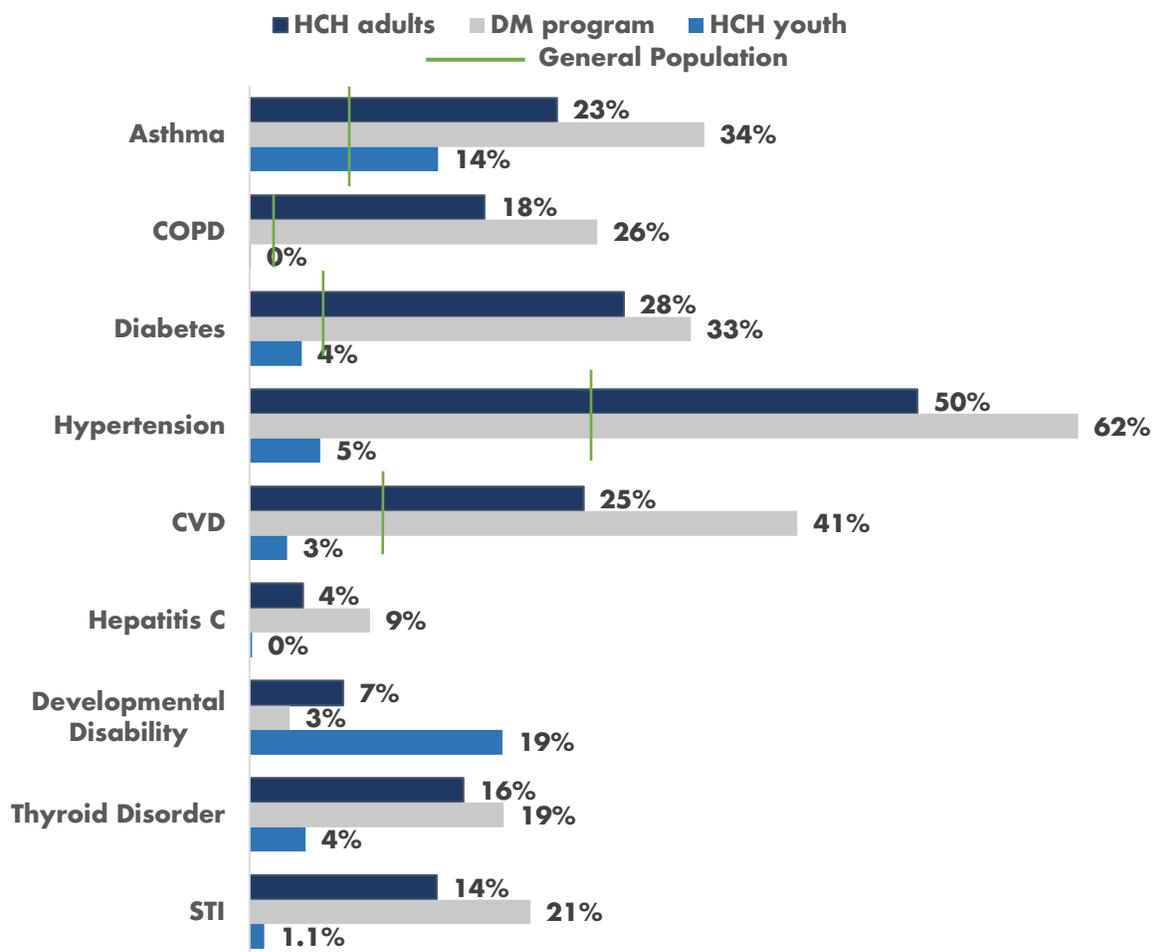
Table 2

2018 DM 3700 & ADA DM HCH Enrollees by Agency				
Agency Name	DM 3700	ADA DM	Total	% of HCH
Adapt of Missouri Inc.	125	14	139	26%
BJC Behavioral Health Farmington	199	9	208	25%
BJC Behavioral Health St. Louis	305	11	316	16%
Bootheel Counseling Services	97	8	105	11%
Burrell Behavioral Health Columbia	121	16	137	11%
Burrell Behavioral Health Springfield	317	80	397	14%
Clark Community Mental Health Center	51	15	66	15%
Community Counseling Center	88	15	103	8%
Community Treatment Inc.	127	29	156	27%
Compass Health	943	143	1086	14%
Comprehensive Health Systems	20	2	22	8%
Comprehensive Mental Health Services	88	27	115	18%
East Central Missouri Behavioral Health	44	3	47	10%
FCC, Inc.	397	32	429	21%
Family Guidance Center	170	41	211	24%
Hopewell Center	76	12	88	9%
Independence Center	57	2	59	13%
Mark Twain	71	8	79	10%
New Horizons	51	5	56	14%
North Central Missouri MHC	66	5	71	8%
Ozark Center	72	10	82	10%
Ozark Medical Center	72	8	80	12%
Places for People	86	4	90	20%
Preferred Family Healthcare Inc.	53	22	75	9%
ReDiscover	96	49	145	10%
Swope Health Services CMHC	49	5	54	9%
Tri County Mental Health Services	50	9	59	9%
Truman Medical Center Behavioral Health	77	9	86	11%
Total	3968	593	4561	14%

D. Chronic Disease Prevalence

The HCH, ADA DM and DM 3700 populations have significantly higher prevalence of chronic health conditions compared to the general population. Fig. 4 shows the prevalence of chronic health conditions of the adults and youth in HCH, as well as ADA DM and DM 3700 programs. The green reference lines on the figure represent the prevalence of the conditions in the general adult population for the conditions reported in a similar manner. In the general population, the prevalence of Asthma is approximately 7%, COPD 2%, Diabetes 6%, Hypertension 26%, and CVD 11%.

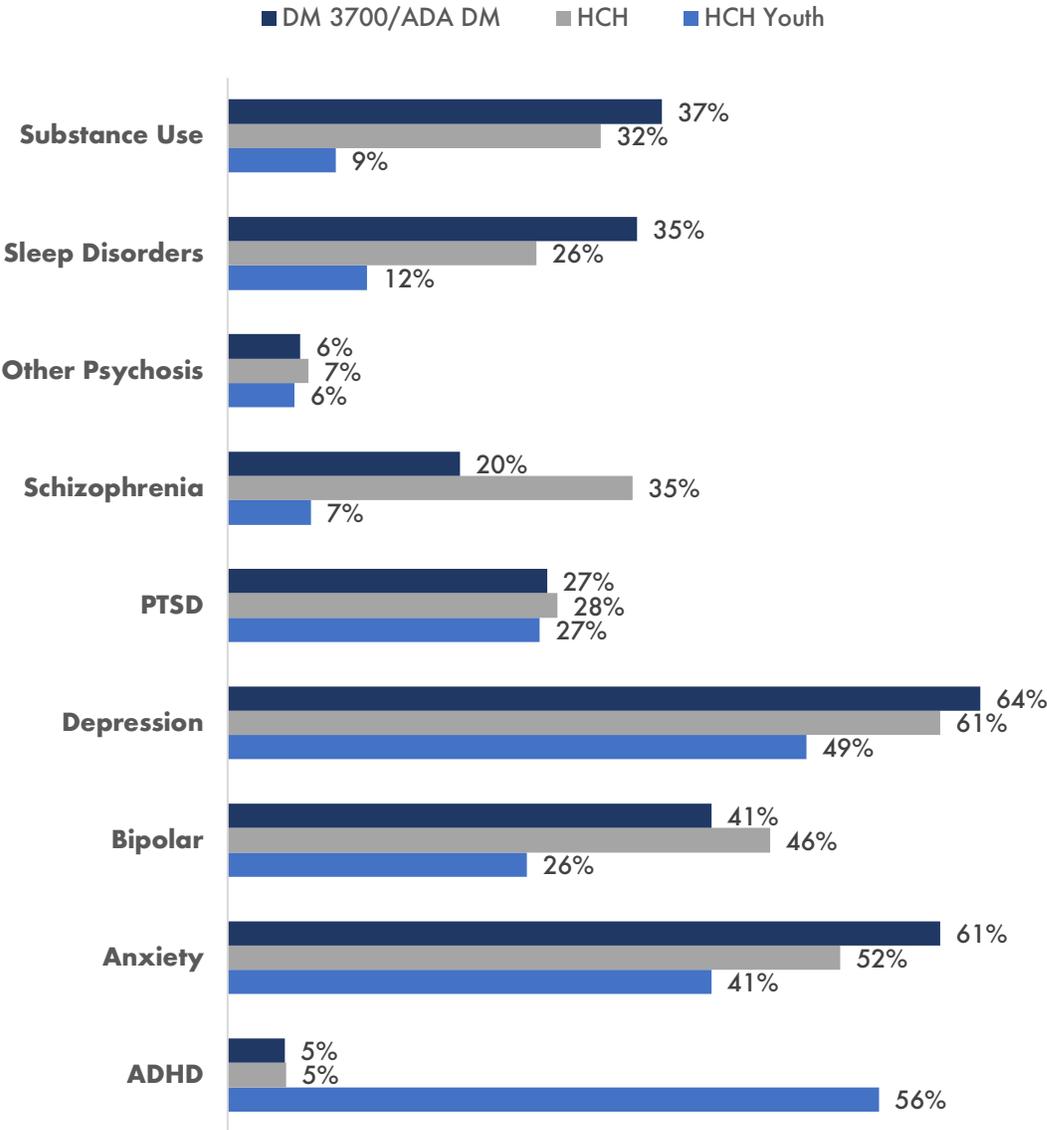
Fig. 4: Chronic Disease Prevalence in HCH Adults, DM 3700/ADA DM and HCH Youth



E. Behavioral Health Conditions

Serious mental illnesses (SMI) are stand-alone, qualifying conditions for enrollment in the HCH. Individuals who have mental illness and take psychotropic medications are at increased risk for cardiovascular, metabolic, and respiratory disease. Fig. 5 shows the prevalence of specific behavioral health conditions for the population of HCH enrollees in 2018. Depression and anxiety were the most common behavioral health conditions in both HCH and DM 3700/ADA DM populations. The conditions detailed include the diagnoses specified in the state plan amendment for the HCH definition of SMI as well as other common psychiatric diagnoses occurring in Medicaid claims data.

Fig. 5: Behavioral Health Conditions in HCH and DM 3700/ADA DM Populations

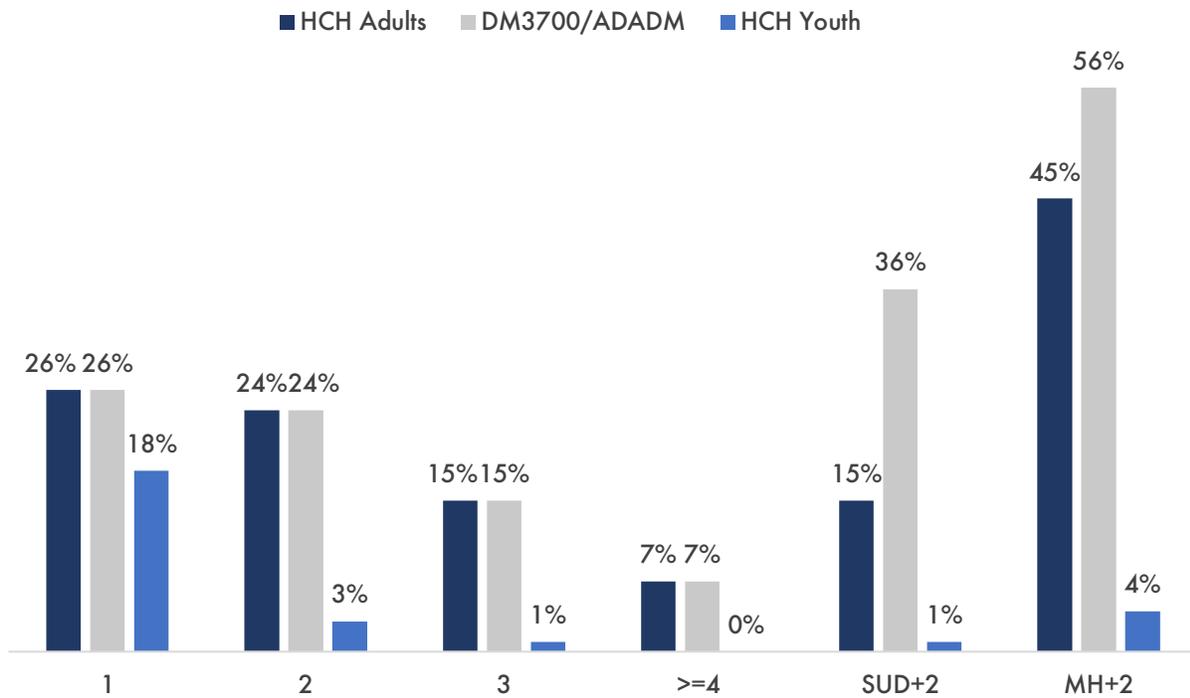


F. Multiple Chronic Conditions

Among persons enrolled in the HCH program and DM programs during 2018, 45% had two or more chronic physical health conditions plus a mental health condition. Of those with substance use disorder, 15% also had two or more chronic conditions such as asthma, cardiovascular disease, diabetes, hypertension, and hepatitis C. These numbers shift more frequently than some other metrics, as the HCH population shifts on an annual basis.

The majority of individuals enrolled in the HCH have multiple chronic health conditions that require collaborative self-management. Forty-six percent of 2018 HCH enrollees had more than one chronic disease diagnosed that qualified them for HCH enrollment, other than their mental health condition. The DM 3700 and ADA DM cohorts had a greater prevalence of multiple chronic health conditions, including those conditions in combination with SUD and mental health diagnoses.

Fig. 6: Number of Concurrent Chronic Health Conditions by Population



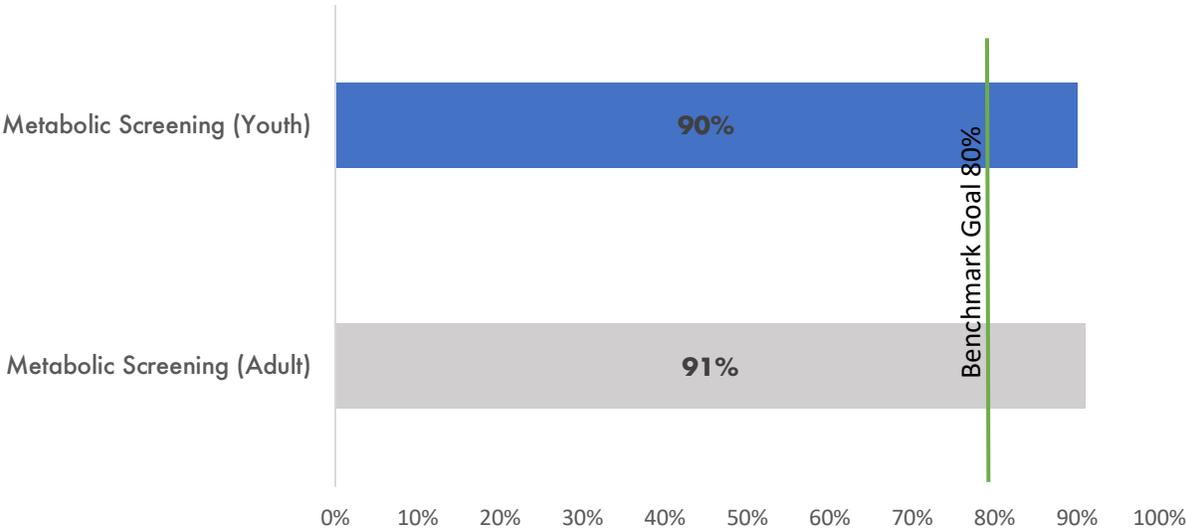
Section 2: Disease Management and Clinical Outcomes

A. Metabolic Syndrome Screening (MBS)

Individuals with any mental illness have significantly increased rates of morbidity and mortality compared to those who do not have a mental illness. The increase in morbidity is, in large part, due to cardiometabolic issues that are exacerbated by the side effects of psychotropic medications. Although this has been well-documented for antipsychotic medications, almost all psychotropic medications have an impact on respiratory and cardiometabolic health. As the entire HCH population may be affected, the ultimate goal is to screen 100% of individuals for blood pressure, cholesterol level, and blood sugar control, and to monitor weight and tobacco use.

Metabolic screening has been a primary focus for cultural and systems change in the HCH. Fig. 7 shows the % of people enrolled in HCH who have had a metabolic screening as of 2018, including both adults and children.

Fig. 7: Percent of HCH enrollees who completed an annual metabolic screening

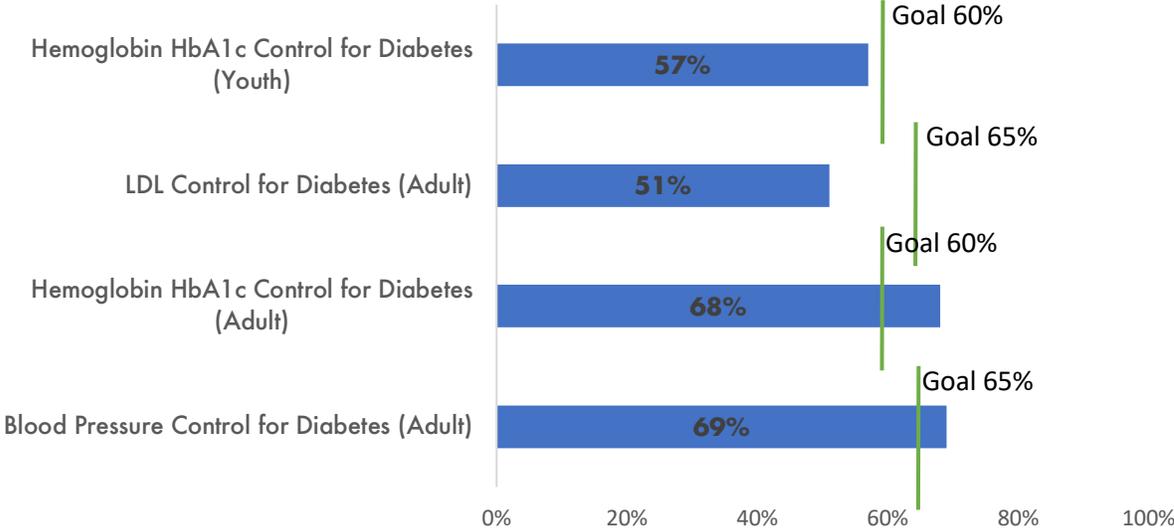


B. Chronic Disease Control Indicators

Individuals in the HCH have 2-3 times the prevalence of diabetes, cardiovascular disease and hypertension compared to the general population (see page 8). As such, it is critical that they receive regular monitoring to ensure that indicators of risk for cardiovascular events (hypertension, hyperlipidemia, elevated hemoglobin A1c/ HbA1c) are in control. The following disease management measures are based on the Healthcare Effectiveness Data and Information Set (HEDIS)¹, which are a set of measures for organizations to measure optimal care and service for their clients. The benchmark goals were identified from Healthy2020² goals at the start of the Health Homes initiative.

Diabetes

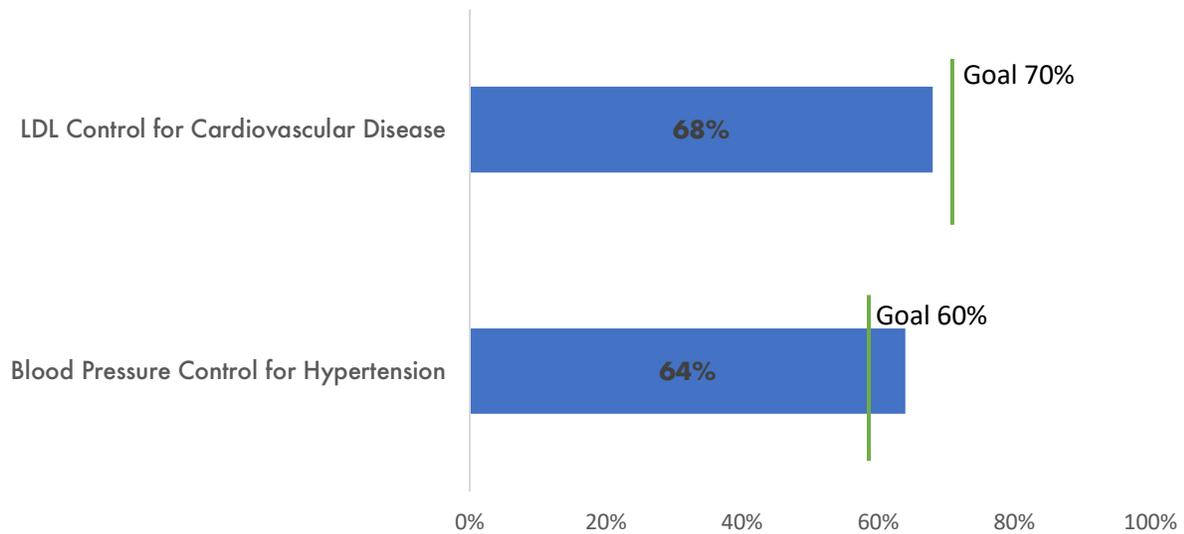
Fig. 8: Percent of HCH enrollees with managed LDL, A1c, and Blood pressure



The chart above shows the percent of HCH enrollees with diabetes who have controlled values for blood pressure (less than 140/90), A1c values (less than 8.0%), and LDL values (less than 100).

Hypertension and Cardiovascular Disease

Fig. 9: Percent of HCH enrollees with managed LDL, and Blood pressure



The chart above shows the percent of HCH enrollees with hypertension and cardiovascular disease who have controlled values for blood pressure (less than 140/90) and LDL values (less than 100).

Asthma / COPD

A benchmark goal for the CMHC HCH was to ensure that individuals with asthma/COPD were appropriately prescribed an oral controller medication. As of our first report, the benchmark goal had been met, with 90% of individuals with asthma/COPD prescribed a controller medication. This goal continues to be maintained year after year.



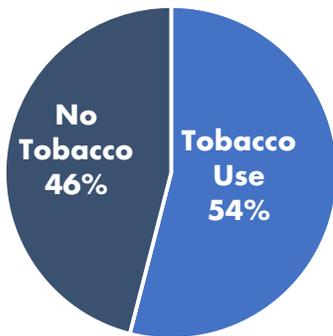
90% of individuals in HCH with asthma/COPD are on a controller medication.

C. Risk Factors for Developing Chronic Health Conditions

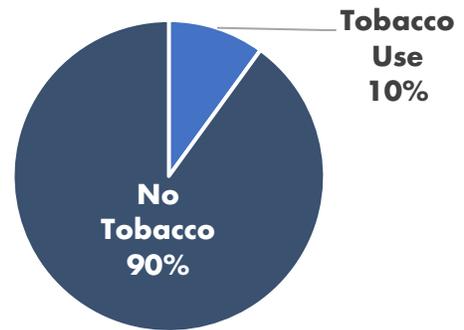
Tobacco Use

The benchmark goal for the HCH was to promote smoking cessation and increase the percent of adult enrollees who are tobacco-free to 56%. Currently, 46% of adult enrollees report that they are not using tobacco. This does not meet the benchmark goal; however, this represents an increase in the % of non-tobacco users since our 2017 report. Agencies have continued to tackle tobacco use through novel interventions and tobacco cessation programs.

**Adults and Older Adults
Tobacco Use**



**Youth and Transitional Youth
Tobacco Use**

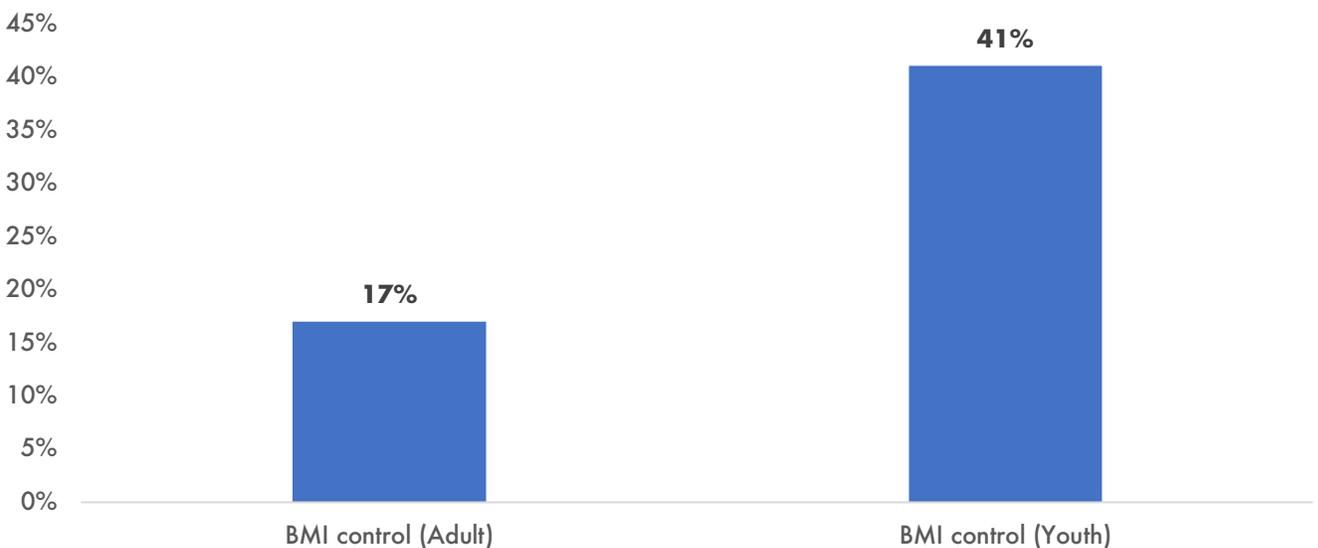


BMI

The prevalence of obesity in the US was reported at 31.3% in 2018⁶, and children’s obesity rates were reported at 18.5% in 2016⁶. At present, less than 25% of adults at all HCH agencies fall into a “normal” BMI, which is a calculated valued based on height and weight between 18 and 24.9. Figure 10 shows the percent of HCH adult and youth enrollees in the HCH who have a BMI in the normal range.

For children, the BMI measure is based on an age, gender, and height specific calculation. For kids to be in the normal range, their weight must be less than the 85th percentile for their age, height, and gender. There are no specific benchmark goals for the agencies at this time. This measure was developed for use in 2018, and the performance by the agencies to date can help inform achievable benchmark goals for this measure in the future.

Fig. 10: Percent of HCH enrollees with normal BMI values



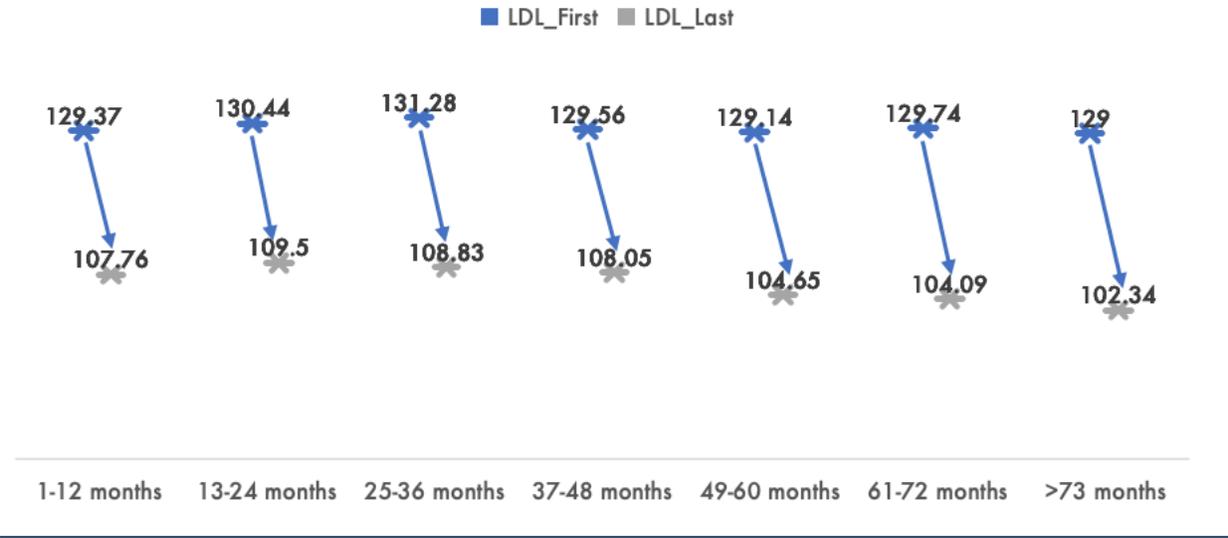
D. CMHC HCH Clinical Improvement

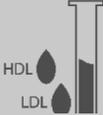
Screening is an important first step in being able to identify and develop a plan to improve health metrics. The following charts show clinical improvement for any HCH enrollee who had a “high” initial reading of blood pressure, LDL, or A1c recorded. The time between first and last readings vary based on an individual’s time in the HCH. The average time between readings varied from 24-30 months for all of the measures. Results are shown for individuals who had at least two readings available for comparison.

Dyslipidemia

Figure 11 shows the average cholesterol levels of HCH enrollees whose levels were considered elevated (an LDL above 100 mg/dL) at their first recorded reading compared to their most recent reading. Research indicates that a 10% reduction in LDL values is clinically meaningful and can reduce the risk of cardiovascular disease by 20%³. On average, all groups have had clinically meaningful decreases in LDL levels, with the greatest decrease observed in persons who have spent at least 48 months in the HCH (24% decrease).

Fig. 11: Change in LDL Cholesterol Levels of HCH Enrollees by Time in HCH





Persons who have been enrolled in HCH for more than 48 months have decreased LDL values by 24%.

Blood Pressure

Figures 12 and 13 show the average systolic and diastolic blood pressure levels of HCH adult enrollees whose readings were considered high (greater than 140/90) at their first recorded reading after they were enrolled in the HCH compared to their most recent reading. Systolic (SBP) and diastolic (DBP) blood pressures show clinically meaningful reductions (under 140/90 mmHg) across all groups. Importantly, the average decrease in blood pressure dropped from 152/97 to 133/83, bringing the values into a normal range. Research has indicated that a 6mm/Hg drop in blood pressure can reduce the risk of cardiovascular disease by 16%, and the risk of stroke by 42%⁴.

Fig.12: Change in Systolic Blood Pressure Levels of HCH enrollees by Time in HCH

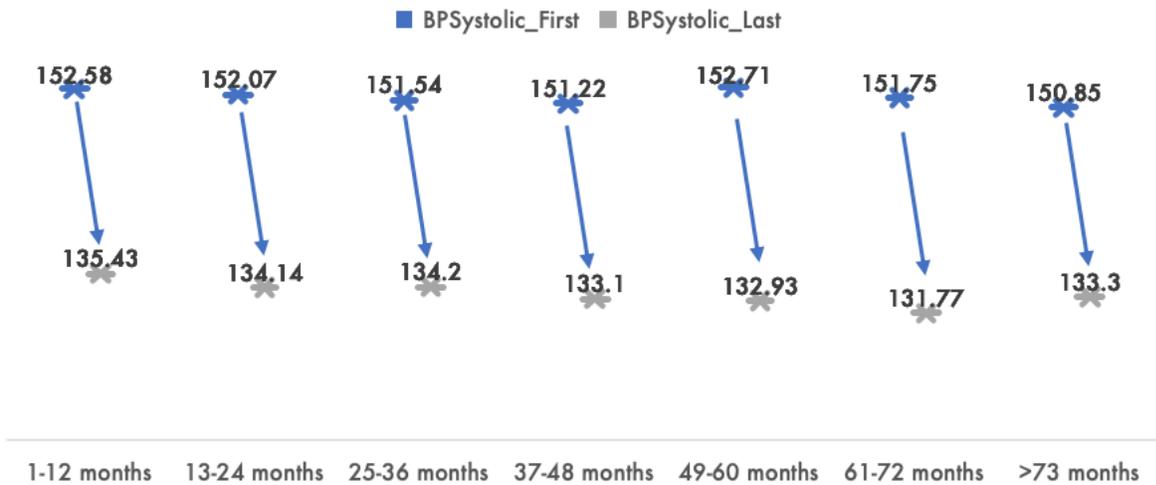
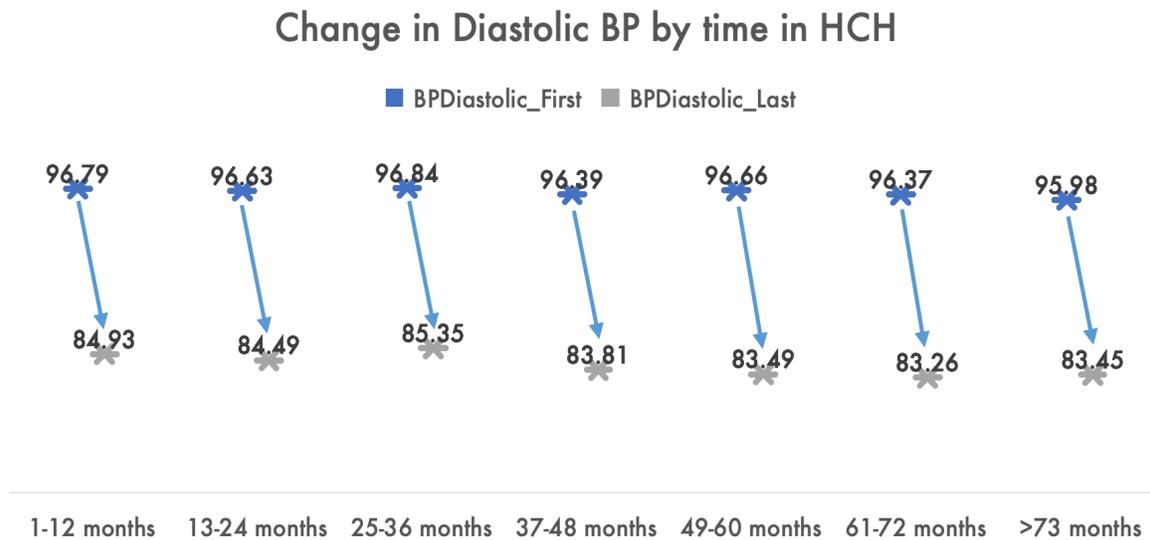


Fig. 13: Change in Diastolic Blood Pressure Levels of HCH enrollees by time in HCH

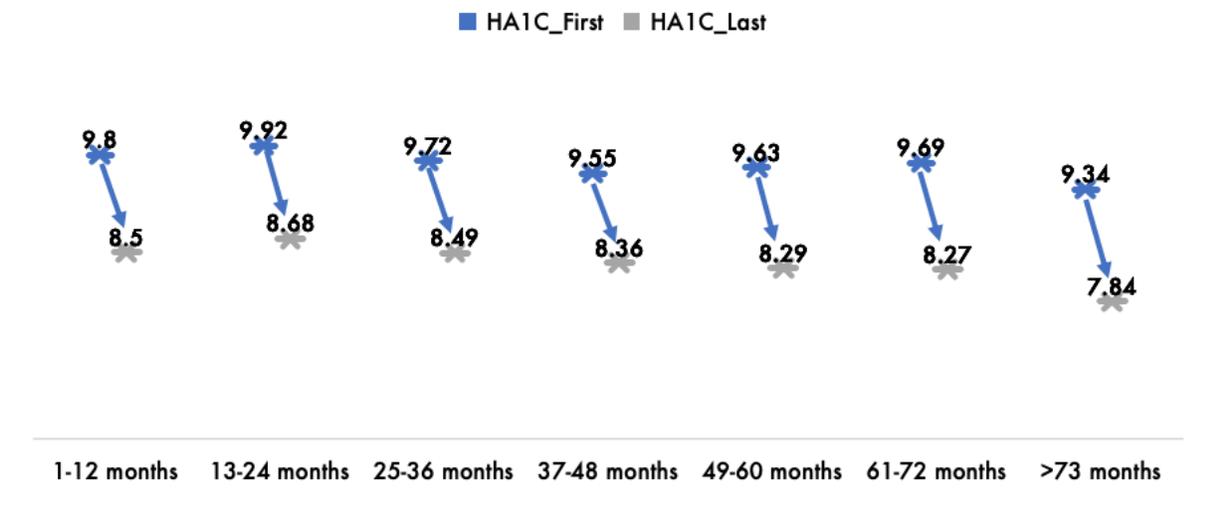


Blood Sugar

Research has indicated that a one percent decrease in HbA1c levels translates to a 21% decrease in diabetes-related deaths, a 14% decrease in heart attacks, and a 37% decrease in microvascular complications⁵.

Figure 14 below shows the average A1c levels of HCH adult enrollees whose levels were considered high (above 8%) at their first recorded reading once enrolled in the HCH, compared to their most recent reading. Every group shows a clinically meaningful reduction in A1c levels. On average, for individuals who have been in the HCH more than 6 years, A1c levels have decreased to a normal range.

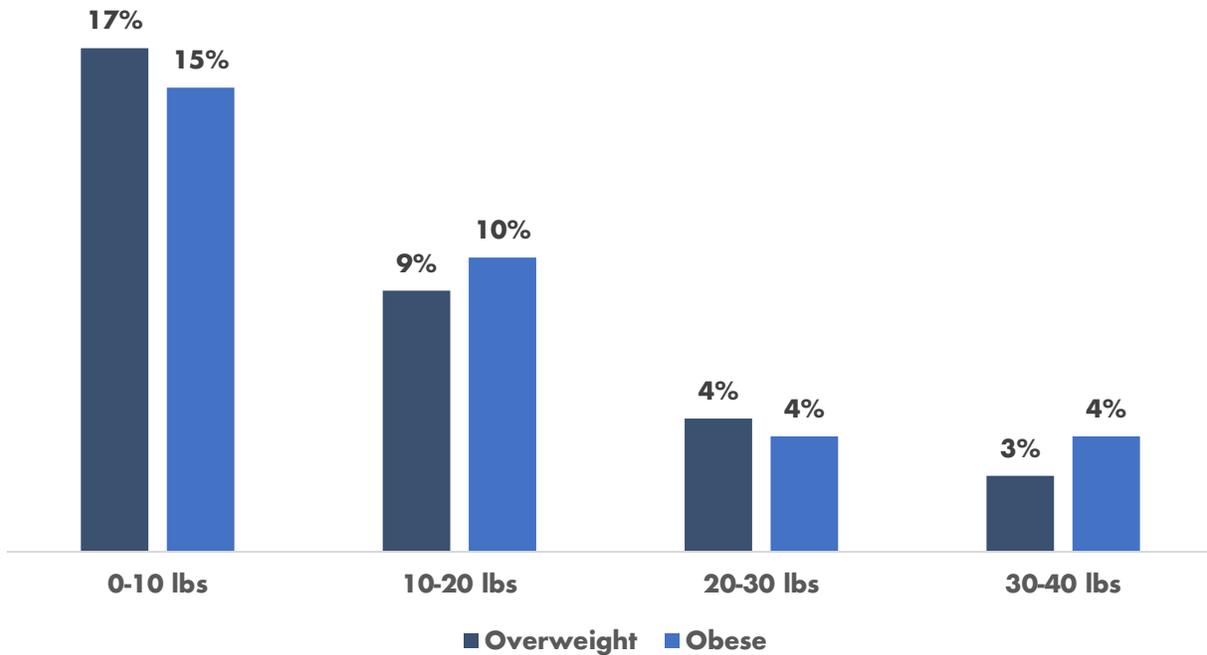
Fig.14: Change in Adult A1c Levels by Time in HCH



Weight Loss

Figure 15 details the percentage of 2018 HCH enrollees who were overweight or obese and who lost anywhere from zero to greater than 30 pounds. **Sixty-six** percent of overweight or obese HCH adults have lost weight, with the majority losing 1-10 lbs. Although it has been difficult to reduce overall BMI, there have been a number of individuals in the HCH who were overweight or obese who have been able to lose weight since they were enrolled in the HCH. These results taken along with the BMI control indicate (p.15) there is room for improvement. However, it is important to acknowledge successful weight loss efforts. The readings are for all HCH adults enrolled as of December 31, 2018 who had at least two weight readings available and lost weight between their first and last readings.

Fig. 15: Adult Weight Loss from Time of Enrollment in HCH



Mortality

On average, persons with serious and persistent mental illness (SMI) have a loss of 20 to 25 potential life years compared to the general population. Programs like HCH may help to reduce the disparity in life-years for persons with SMI; however, it is expected that this will take time. An initial look at mortality rates of HCH enrollees by the year they initially enrolled in HCH (cohort) indicates that persons who stay in HCH longer are likely to have more life years. Additionally, the mortality rate for individuals who have remained in HCH at least 60 months is only 2%, whereas the mortality rates for all other cohorts was 6-7% (see Table 3).

Although it appears as though the efforts to manage chronic disease in the HCH are having an impact on life years, the lifespan of these individuals with SMI and chronic health conditions still falls far below the national average lifespan of 78.6 years (National Center for Health Statistics, 2016), and at this point, there has not been a reduction in overall life years (see Table 4).

Table 3

Deaths per Year per HCH Cohort							
Year of Death	2012 Cohort Number (%)	2013 Cohort Number (%)	2014 Cohort Number (%)	2015 Cohort Number (%)	2016 Cohort Number (%)	2017 Cohort Number (%)	2018 Cohort Number (%)
2012	349 (1.5%)						
2013	445 (1.9%)	32 (0.5%)					
2014	414 (1.8%)	91 (1.4%)	30 (0.5%)				
2015	453 (1.9%)	69 (1.1%)	73 (1.1%)	39 (0.5%)			
2016	401 (1.7%)	83 (1.3%)	92 (1.4%)	98 (1.2%)	46 (0.6%)		
2017	407 (1.7%)	86 (1.4%)	72 (1.1%)	85 (1.1%)	69 (0.9%)	39 (0.6%)	
2018	356 (1.5%)	65 (1.0%)	67 (1.0%)	63 (0.8%)	63 (0.8%)	69 (1.1%)	27 (0.4%)
TOTAL	2,825 (12%)	426 (6.7%)	334 (5.0%)	285 (3.6%)	178 (2.4%)	108 (1.6%)	27 (0.4%)

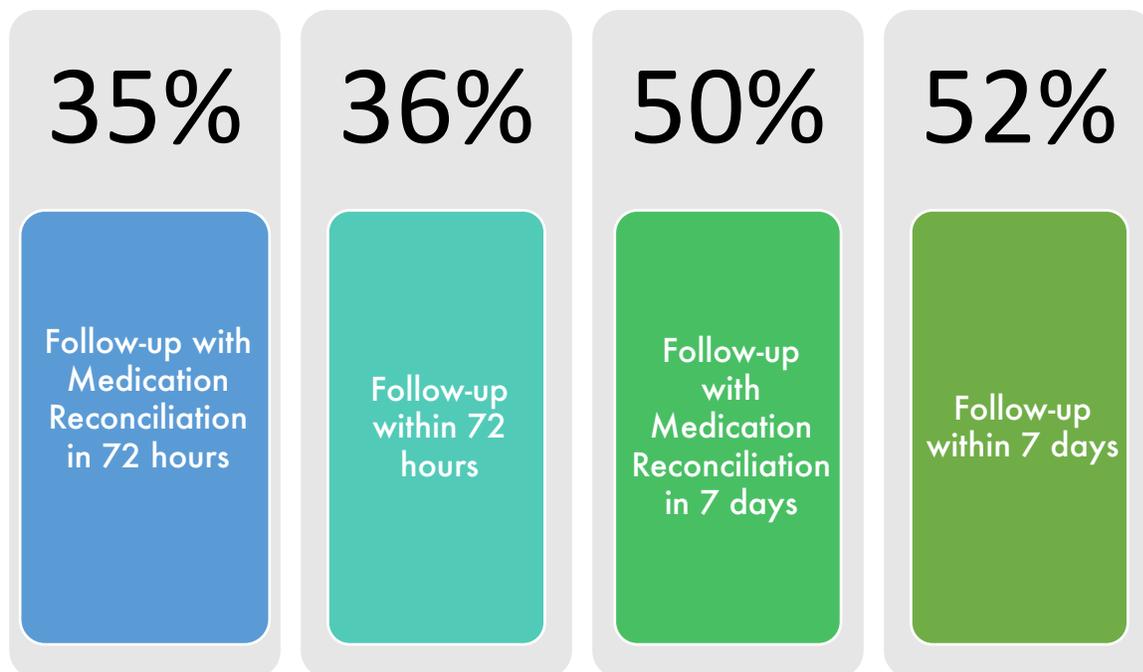
Table 4

Years of Lost Life for Deaths in 2018 (Ave. Life 75 Years)	
Average age death	58.4
Sum of YLL	14,401
Average YLL	20.28
N of Deaths - 2018	710

E. Hospital Follow-up and Medication Reconciliation

CMHCs have a history of monitoring psychiatric hospital admissions and participating in discharge planning for individuals enrolled in their Community Psychiatric Rehabilitation (CPR) programs. Now, in addition to psychiatric admissions, HCHs are responsible for participating in discharge planning and following-up within 72 hours of discharge for enrollees who have been hospitalized for any reason. Nurse Care Managers (NCM) are also responsible for completing medication reconciliations within 72 hours of the hospital discharge. The goal of the HCH is to follow-up and complete medication reconciliations within 72 hours for 70% of enrollees discharged from hospitalization.

On average, 35% of HCH enrollees who have a hospitalization receive a follow-up and medication reconciliation within 72 hours of hospital discharge in 2018.



There are numerous challenges to the agencies in reporting the follow-up data. Data entry methods for follow-up changed for 2018 to more accurately capture follow-up and medication reconciliation rates. For 2018, data entry into a new system affected reported follow-up rates in February and March of 2018, which affected the overall rates for 2018. Efforts to improve upon the recording of hospital follow-up are ongoing.

Section 3: Service Utilization and Financial Impact

A. Hospital and Emergency Department Utilization

Reductions in emergency department (ED) use, avoidable hospitalizations, and readmission to the hospital within 30 days of discharge can have a dramatic impact on the cost of care for HCH enrollees.

The following figures (Figs. 16 and 17) illustrate the change in these utilization measures for the enrollees. Given the number of years the program is in place, we show the baseline, and most recent three years. The majority (88%) of ED visits by HCH enrollees are for medical issues. Hospitalizations are more often due to medical issues (56%), than for mental health or substance use (44%). These metrics have barely shifted over the years, with 2016 and 2017 showing the greatest change in the relative psychiatric to medical hospitalizations compared to other years, which tend to look similar to the 2018 numbers. Ideally, with disease management strategies, these values will continue to be relatively balanced.

Fig. 16: Percent Behavioral Health and Medical Hospitalizations

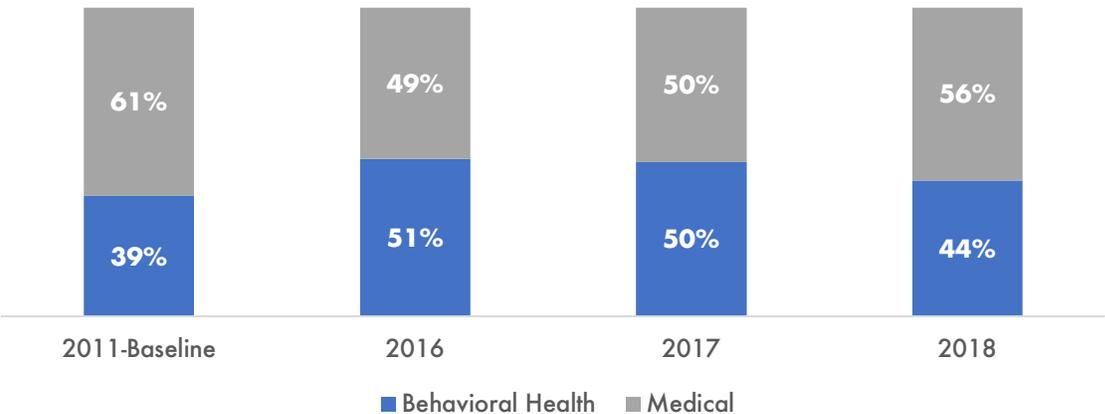
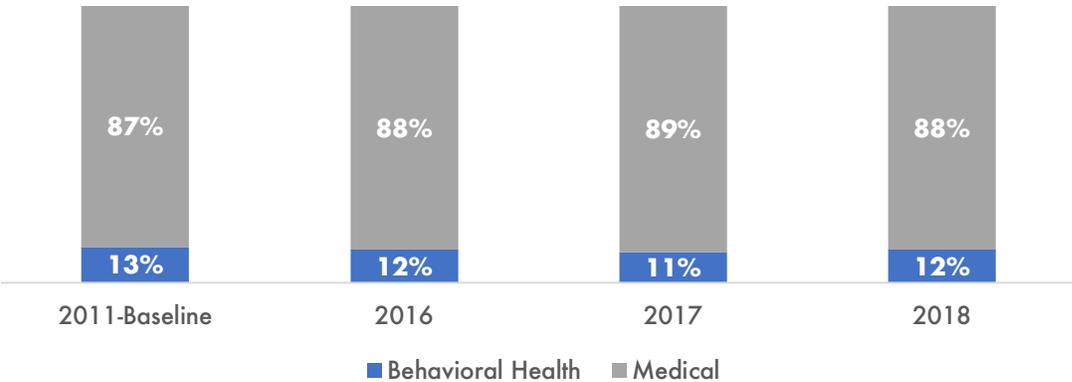


Fig. 17: Percent Behavioral Health and Medical ED visits



Population Health Measures—for Hospital and Emergency Department Use

The rates of hospital visits and ED visits have decreased continuously for the HCH population. Figure 15 demonstrates a reduction in the % of individuals who have an ED visit (38% reduction) or hospitalization (23% reduction). Figure 16 shows 41% decrease in the number of ED visits, and a 28% decrease in hospitalizations from baseline for persons served in 2018.

Fig. 15: Percent of HCH enrollees with at least one ED visit or hospitalization by program year

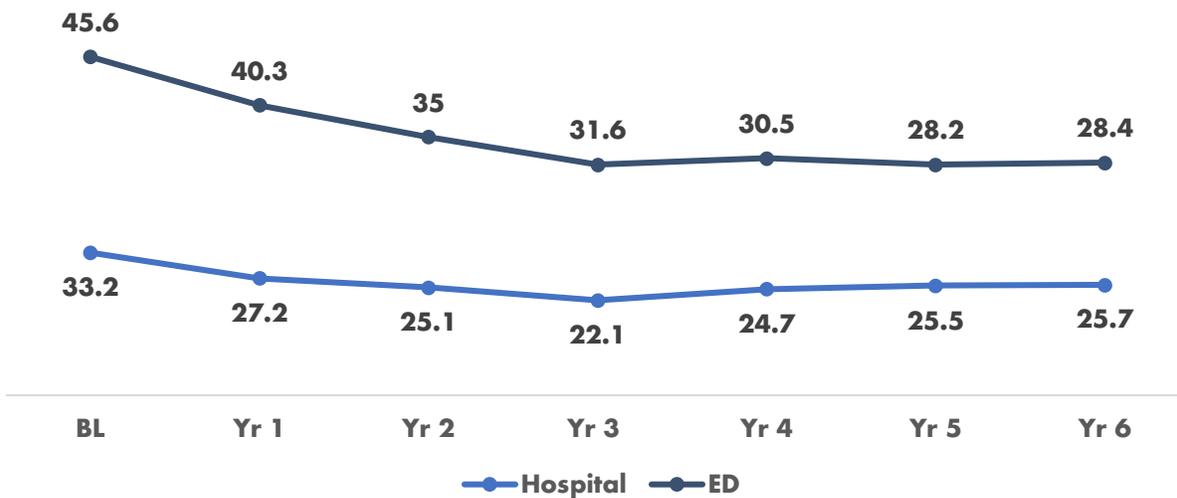
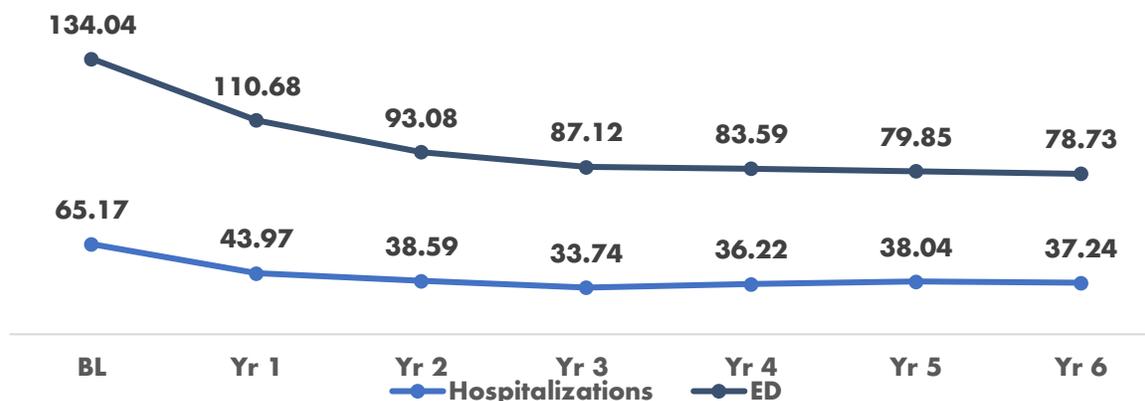


Fig. 16: Number of ED visits or hospitalizations by member month



What is a Member Month?

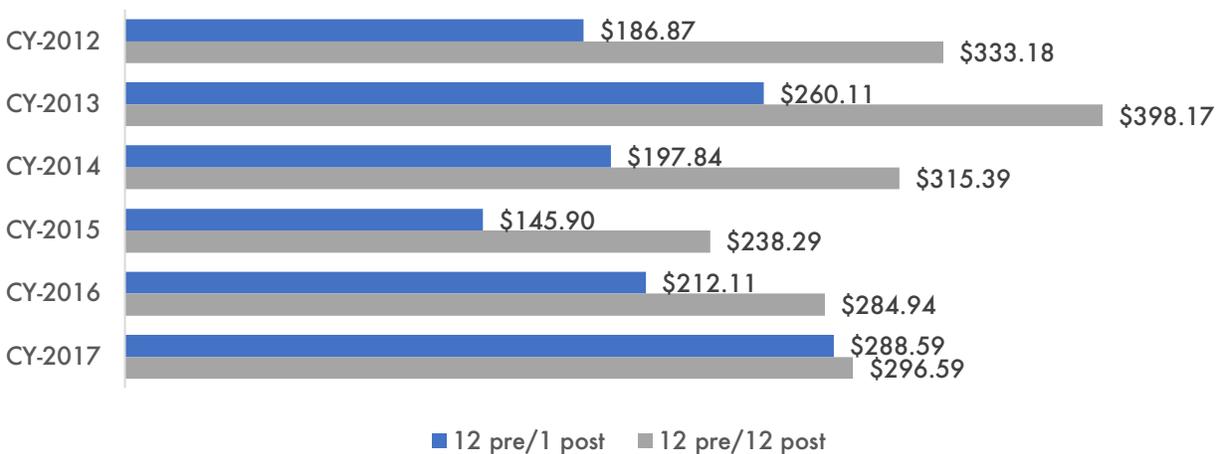
The chart above shows the rate of hospitalizations and ED visits per 1,000 member months. Member months count the number of months within a calendar year that a person has MO HealthNet coverage. Most HCH enrollees have 12 member months in a year. In the chart above, we are counting the member months for each person enrolled in HCH for each time period.

B. Cost Savings

In 2017, MO HealthNet reported cost savings to Centers for Medicare and Medicaid Services with regard to cost savings for individuals served in the HCH. The CMHC HCH has saved an average of \$288 per member per month for calendar year 2017 compared to the year prior to HCH enrollment.

The numbers are based on all CMHC HCH enrollees who had at least one month of HCH services in the year measured (e.g. 2016). The savings were calculated by subtracting the calendar year savings from the calendar year prior to HCH enrollment. For example, an individual who was enrolled in the CMHC HCH in 2013, would have a baseline year of 2012. As long as that person had 12 months of MO HealthNet eligibility in 2012, their 2012 cost would be calculated, and subtracted from their 2013 costs. The per member per month payments paid in 2013 for all persons included in the calculation were counted against the gross savings numbers to produce the net savings of \$289 per member per month. Persons who had costs exceeding 3 standard deviations of the average enrollee annual cost were excluded from savings calculations. Additionally, individuals who have dual eligibility in Medicaid and Medicare were included in these calculations; however, only the savings associated with Medicaid costs were included in the calculations.

Cost Savings thru 2017



Section 4: Improvement Steps, System-wide Change and Future Directions

Data collection, reporting, and care management for CMHC HCHs
CareManager, a care coordination and management tool was released to all agencies in January 2018. There has been continuous work to improve the tool and its use not only by HCH staff, but other staff within the CCBHO and CMHC organizations that should further drive population health management. Of the ongoing work, additional detail about the rollout and functionality of the tool will be described in future reports.

Certified Community Behavioral Health Organizations

Missouri was chosen as one of the eight states to implement a 2-year demonstration project for Certified Community Behavioral Health Organizations (CCBHOs). As mentioned in our previous report, in July of 2017, fifteen of the CMHC agencies that serve as HCHs became CCBHOs. This change was not intended to change or impact the way the HCH staff provide services to HCH enrollees, although CCBHOs were given additional benchmark measures that affected some changes to the way outcome metrics are calculated for HCH enrollees. As such, HCH data reported through 2017 is not directly comparable with data presented in this report.

Future Directions

- 1. Define best practices:** The Missouri CMHC HCH has consistently met and exceeded program goals and improved population health outcomes for enrollees. There is constant process and program development taking place. Every agency has unique characteristics and has implemented the HCH in slightly different ways to best fit their populations, and agencies. Going forward, it would be beneficial to record the characteristics and processes of the agencies who are the strongest performers across all of the measures in which HCH is measured. These best practices can inform implementation process measures for all agencies, and inform future health home implementations. Additionally, it will be important to define both agency and system-level best practices, such as those managed at the state level.
- 2. Targeted interventions for distinct populations:** The measured outcomes for HCH enrollees are consistently at or above benchmark goals set by the state. However, there is always room for improvement. Identification of distinct populations and the examination of key interventions that may drive further clinical improvement. Identification of target populations at the state-level may be most effective for informing interventions at the agency level. Additionally, this examination may help to inform other common illnesses, or diseases that might benefit from HCH intervention.
- 3. Address cause of death:** HCH enrollees have a reduced life expectancy (p.20), similar to pre-HCH studies indicating a 20-25 year reduction in life. In prior studies in MO, cardiometabolic factors were the top causes of mortality. Given the focus on cardiometabolic factors, it is possible that there has been a shift in mortality, and new studies examining cause of death in the HCH population can inform the effectiveness of the program at mitigating cardiometabolic risk for mortality and inform additional targets of preventative care and care management.

4. **New populations:** The eligibility criteria for HCH has not changed since the program was implemented in 2012. At present, the Department of Mental Health is working to develop a revision to the state plan amendment (SPA) in order to add additional criteria that would allow new populations to be eligible to receive care in the HCH.

5. **Effect of statewide change on HCH:** In the last several years, the movement to CCBHOs has changed some of structural processes across a number of agencies. Most HCH agencies are also CCBHOs, and operate within both contexts. Though the process and population health management provided by the HCH was not to be changed, new programs may serve to either enhance or detract from long-established programs. Understanding how HCH is embedded within the culture of agencies and woven into new programs will help inform other states and agencies that may choose to adopt new practices.

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